

RS06 - Oral

## DISTRIBUTION PATTERNS OF PHYTOPLANKTON FUNCTIONAL GROUPS IN CONNECTED/ISOLATED RESERVOIRS IN AN URBAN DRINKING WATER SYSTEM

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Eighteen reservoirs belonging to an urban drinking water system (Zhuhai city, South China) were investigated in the dry and flood seasons of 2013 to evaluate how hydrological connectivity may affect the specie richness and functional composition of phytoplankton. Eleven among the studied water bodies are connected through pipelines and seven are isolated. Twenty one phytoplankton functional groups were identified in the studied reservoirs. Cluster analysis showed that phytoplankton similarity is higher among connected reservoirs than among isolated ones. The average  $\alpha$ -diversity is high in the connected reservoirs, but the average  $\beta$ -diversity is much higher in the isolated reservoirs. The highly connected reservoirs (larger amount of water transported and shared) had very similar dominant functional groups. Connected reservoirs with less water exchange rate shared the same dominant functional groups but showed a much more diversified composition of non-dominant species. However, some isolated reservoirs with comparable trophic state showed even higher similarity in their phytoplankton functional groups composition regardless of connection. The functional diversity of phytoplankton was higher in the flood season than in the dry season for all the investigated reservoirs. Our results show that the functional diversity and similarities among phytoplankton assemblages in the studied reservoirs were related to both their hydraulic connectivity and to their trophic state.